



USAID / Jamaica

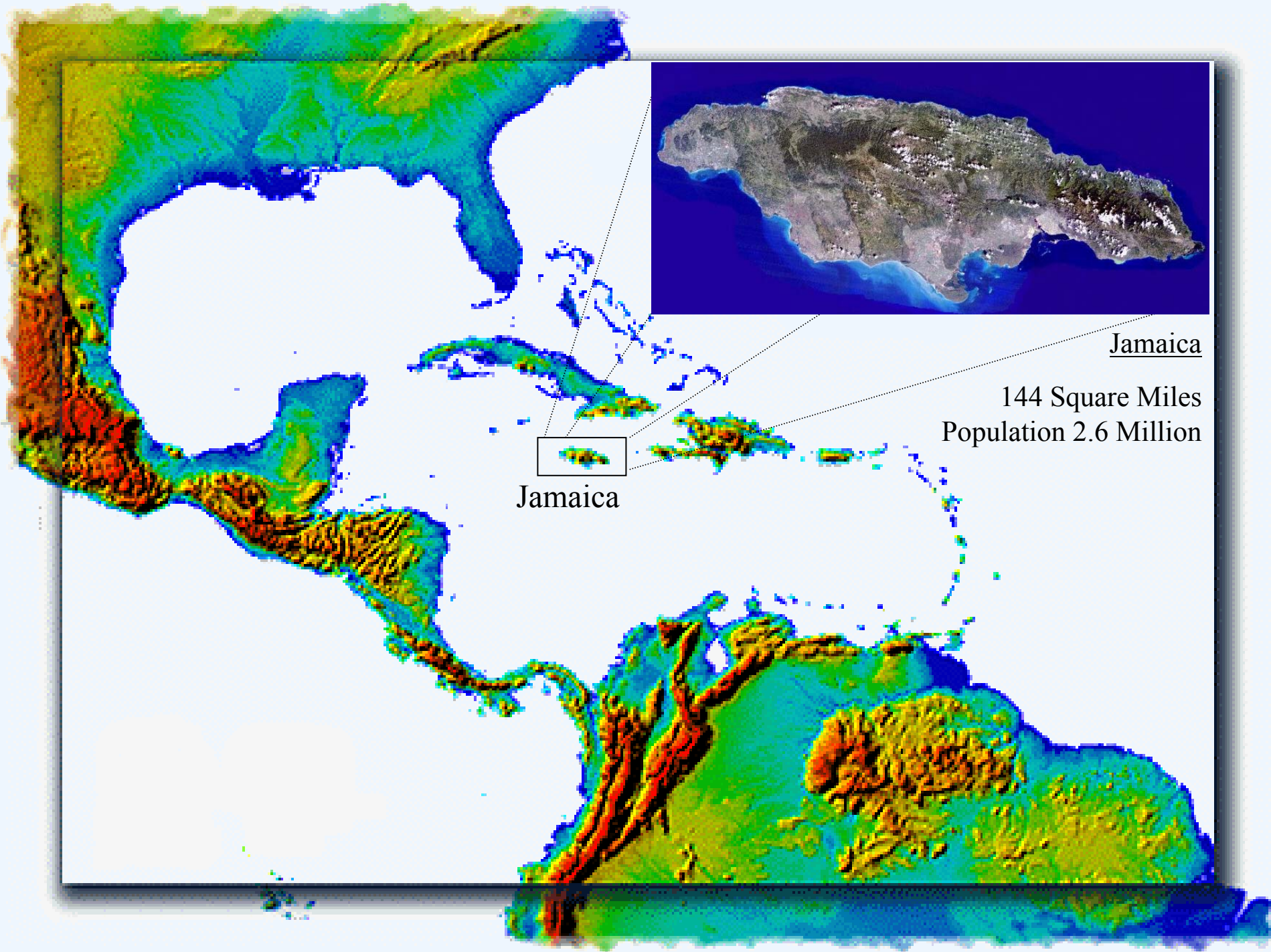
“From Ridge to Reef”

Wastewater Management

Promoting a New Paradigm for Improved Wastewater Management

An initiative under the Coastal Water Quality Improvement Project (CWIP)

Presented by
USAID/Jamaica



Jamaica

144 Square Miles
Population 2.6 Million

Jamaica

When You Think Of Jamaica This Is What Comes To Mind



Jamaica's Environmental Status

- Environmental monitoring, overall, is inadequate.
- Watersheds are under severe pressure.
- Coastal water quality threatened by seasonally high nutrient and faecal coliform levels and suspended solids.
- Mangrove forests and wetlands are disappearing – coral reefs 80% dead.
- Deforestation rates approximated at 10,000 hectares per year.

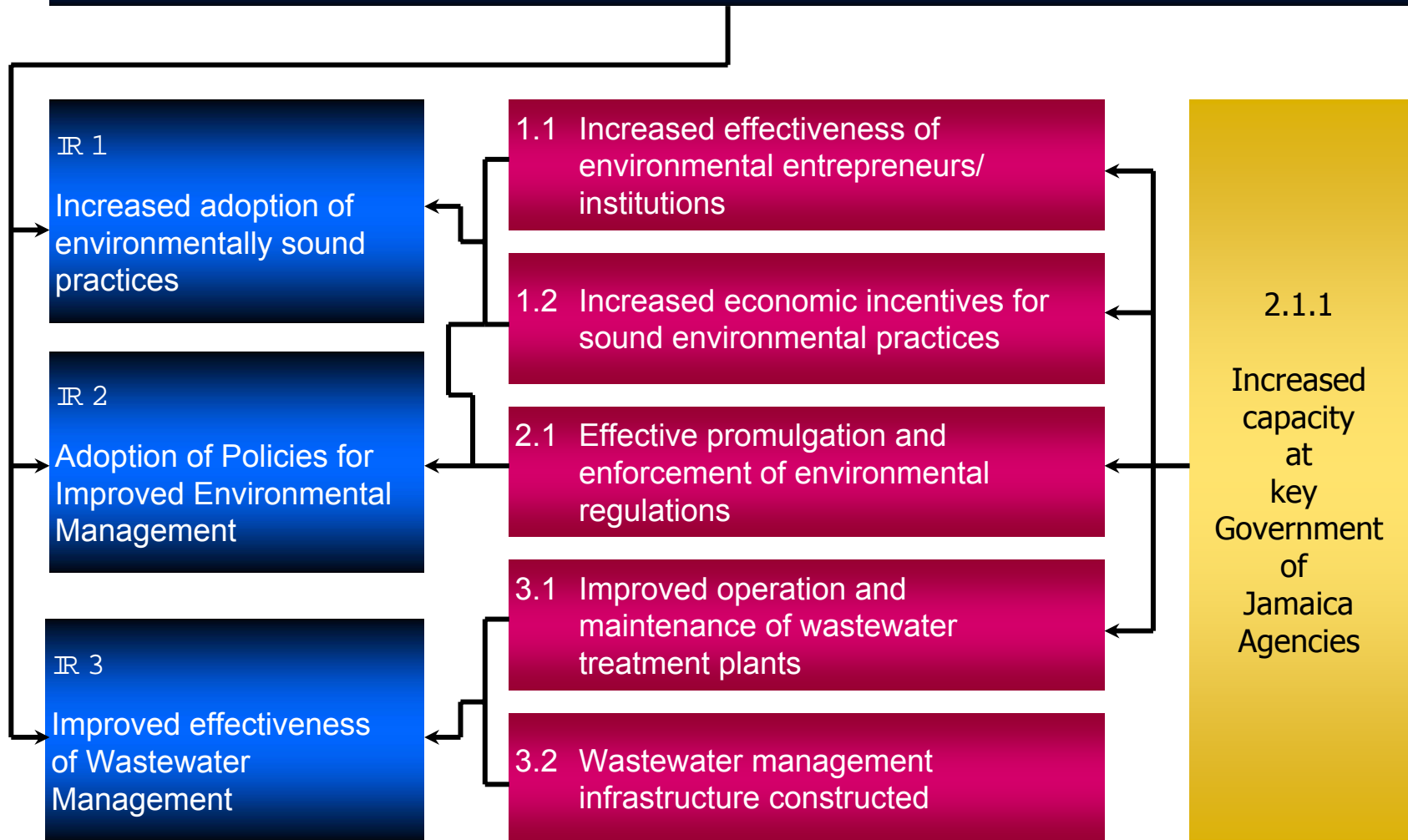


USAID's Environmental Strategic Objective

Improved quality of key natural resources in selected areas that are both environmentally and economically significant

Strategic Objective 2

Improved quality of key natural resources in selected areas that are both environmentally and economically significant



From Ridge to Reef

- Links reductions in upper watershed deforestation, pollution and land erosion to improvements in coastal water quality.
- Activities/projects within the environmental portfolio are such that they attempt to mitigate environmental problems in the uplands and lowlands that impact on the coastal zone.
- This concept represents a more integrated approach to addressing problems such as land degradation and deterioration of water quality.

Our Activities

- Ridge to reef watershed project (R2RW)
- Coastal water quality improvement project (CWIP)
- Environmental audits for sustainable tourism (EAST)

Target Sites





Coastal Water Quality Improvement Project

CWIP promotes sound environmental practices and partnerships through an integrated coastal resources management approach by working with all sectors of society from community to government



Coastal Water Quality Improvement Project

- **Duration:**

Six years (1997 - 2003)

- **Funding:**

US\$8 million

- **Target Sites:**

Negril, Ocho Rios, Port Antonio

- **Collaborating Agencies:**

NEPA-NRCA, NWC, NGOs

- **Technical Assistance:**

Associates in Rural Development, Inc. (ARD)

Framework

**Coastal Water Quality
Improved
in Environmentally and
Economically Significant Areas**

CR 1

Community-based initiatives to identify, prioritize, & address environmental concerns supported.

CR 2

Operation and maintenance of municipal wastewater systems developed and improved.

CR 3

Environmental practices of industries and commercial establishments improved.

CR 4

NGO-government partnerships to expand & regularize coastal water quality monitoring developed.

CR 5

Coordination of coastal zone management activities among Jamaican Govt. agencies, int'l donors, & NGOs improved.

CR 2

Operation and Maintenance of Municipal Wastewater Systems Developed and Improved

Goal: Enhanced wastewater treatment plant operation and maintenance capacity and maximum plant utilization will lead to improved coastal water quality.

Major Activities

- Promote Public-Private Partnership models in wastewater operations
- Strengthen National Water Commission's capacity for operation and maintenance of wastewater systems
- Facilitate sewage connection policy and maximum utilization
- Assess nutrient, wetlands and tertiary wastewater management issues



Status of Wastewater Sector in Jamaica



- Low priority for wastewater management, underfunding of the sector.
- Historical reluctance to embrace concepts of commercialization of wastewater services.
- Lack of awareness of linkages between improper wastewater management, coastal water quality, tourism product, and national economic vitality.
- Rapid growth in tourism sector along the coast has resulted in increased pressure on infrastructure including water resources, wastewater and solid waste disposal services.

Status of Wastewater Sector in Jamaica

- Inadequate number of sewage treatment plants in operation.
- Poor operating conditions in existing plants.
- On-site/private facilities for sewage and industrial wastewater disposal cause significant water pollution.
- Existing legislation and its enforcement requires reinforcement by appropriate economic and policy measures.
- Jamaica national average for sewage generation is 455m litres/day. 25% is collected and treated in conventional treatment systems. About 51% still use pit latrines and the remainder use other informal methods.

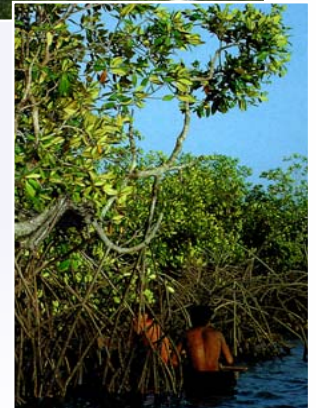


Status of Wastewater Sector in Jamaica

- Urban centers account for 90% of waste handled by the National Water Commission (NWC)
- 3 new central secondary sewage systems built recently - one each in Montego Bay, Negril and Ocho Rios.



- Total of 139 sewage treatment plants in Jamaica, some privately owned and operated and others operated and/or owned by NWC.
- 49 sewage plants currently operated by the NWC.

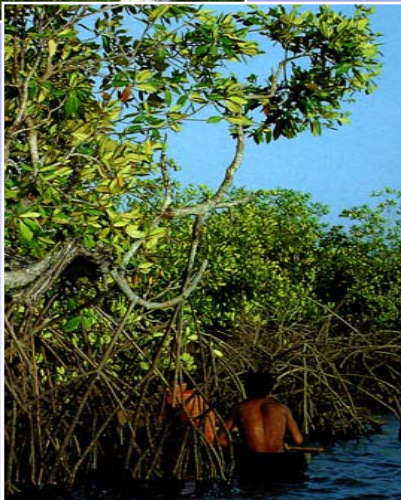


Status of Wastewater Sector in Jamaica



- Central systems located in Kingston and St. Andrew, St. Catherine and Montego Bay.
- NWC also has responsibility for small wastewater systems associated with housing developments.
- Most plants are for primary or secondary treatment while there is one tertiary treatment plant.
- At 1996, of 112 sewage treatment facilities monitored by ECD 30% were operating satisfactorily

Status of Wastewater Sector in Jamaica

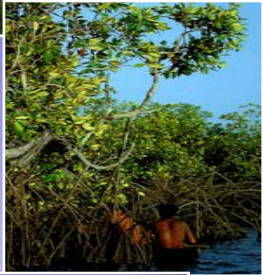


- The national environment and planning agency (NEPA) established sewage effluent standards in December 1996.
- Proposed sewage effluent regulations for implementation late 2001.
- Influent standards have been recently introduced by the NEPA/NRCA.

Status of Wastewater Sector in Jamaica

Policy issues

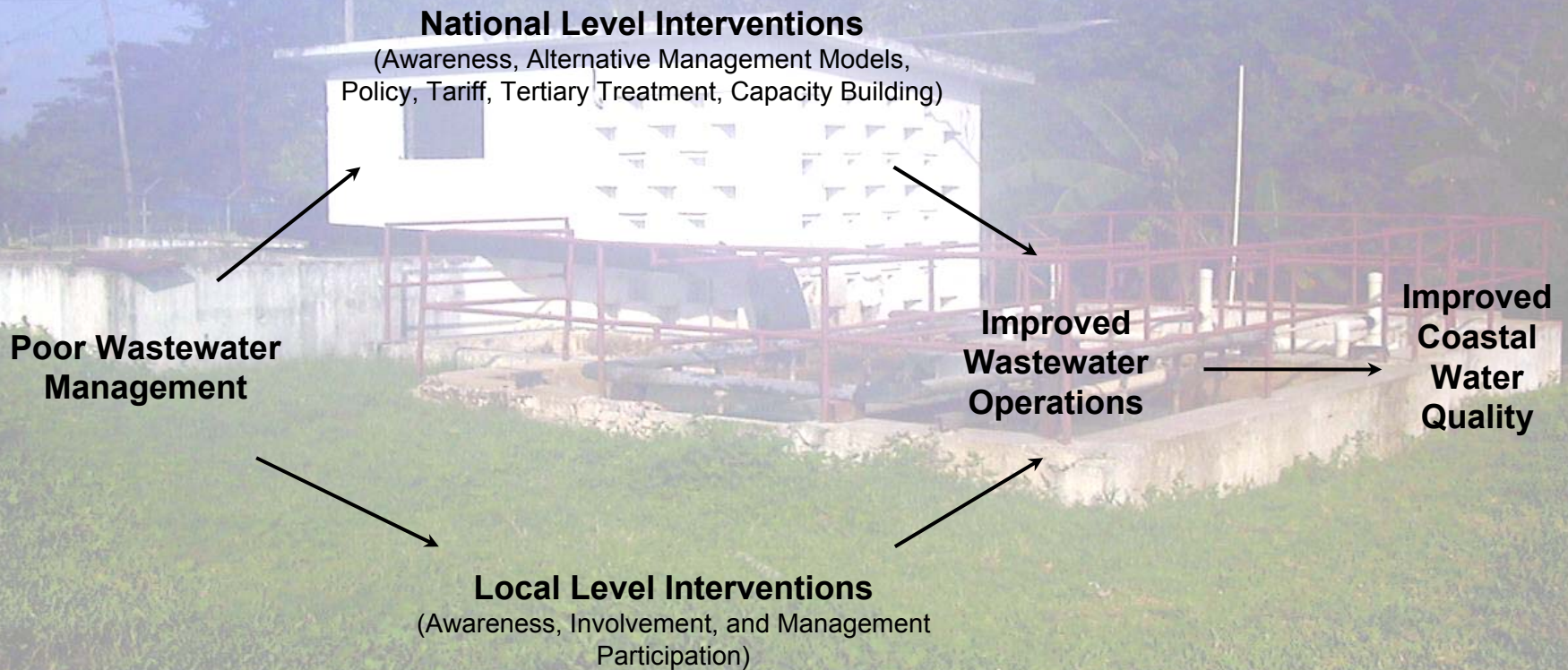
- Need to address issues related to:
 - Pricing of wastewater treatment services and charges to consumers for service
 - Encouraging and providing incentive for connection of households, businesses etc. To central sewage systems
 - Privatization of wastewater services and encouraging public private partnerships
 - Enforcement of and compliance with standards.



Towards the Development and Improvement of Operations and Maintenance of Municipal Wastewater Systems

Case Study

Promoting a New Paradigm for Improved Wastewater Management



Case Study

Promoting a New Paradigm for Improved Wastewater Management

Strategy

- Increase awareness of environmental and economic significance of wastewater at the national and local levels (ENGO and private sector interests)
- Encourage national wastewater policy formulation to address:
 - Adequate tariff structure for wastewater management cost recovery
 - Acceptance and experimentation with public-private partnership and public participation concepts
 - Connection to wastewater systems
 - Commitment to tertiary level treatment as necessary

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Strategy (cont'd)

- Development of pilot programs that provide a forum for public and private participation in wastewater management.
- Training of sewage treatment personnel to improve technical competence and standardize the management, operations and maintenance of wastewater treatment plants.
- Capacity building through training and support to the advisory and monitoring committees (amcs).
- Assistance with the development of sustainability plans.

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Results

- Increased national and local appreciation for the environmental and economic significance of effective wastewater management
- New national water policy finalized in 1999 embracing concepts of public-private partnership
- National sewage connection policy and strategy developed and approved by cabinet.
- Wastewater tariff increased 100% in 1999 for improved cost recovery.

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Results (cont'd)

- Memoranda Of Understanding (MOUs) enacted forming the Negril and Ocho Rios Wastewater Advisory and Monitoring Committees (AMCs) - a Public-Participation Experimental Model in wastewater management.
- Sustainability of AMC achieved in Negril through funding from NWC and in-kind contribution from community.
- Government of Jamaica (GOJ) requesting replication of model in Montego Bay and Kingston.
- GOJ announcement of Public-Private Partnership Contracts.

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Results (cont'd)

- Recognition of AMC effectiveness by NEPA - incorporation of specific conditions by NEPA into NWC's License to Discharge.
- Quick response to community wastewater problems.
- Increased community participation in wastewater management decision processes.
- Strengthening of the accountability factor within the NWC.

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Results (cont'd)

- Improvement in relationship between the company responsible for sewage treatment and the general public
- Improvement in services
- Strengthening of civil society groups
- Improved coastal water quality

Case Study

Promoting a New Paradigm for Improved Wastewater Management

Lessons Learned

- The success of the partnership model developed confirms the advantages of forming strategic partnerships to address local problems
- Community input into matters that concern the community is important in effecting successful design and implementation
- Stakeholder buy-in is critical to ensuring long-term sustainability